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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,177	09/01/2000	Ahmad Jalali	PA000376	6254

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Qualcomm Incorporated  
Patents Department  
5775 Morehouse Drive  
San Diego, CA 92121-1714

EXAMINER

MERID, ARADOM B

ART UNIT PAPER NUMBER

2631

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/654,177

Applicant(s)

JALALI ET AL.

Examiner

Aradom B. Merid

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2 and 3</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### 1. *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9, 10, and 13 –15 are rejected under 35 U.S.C. 102 (b) as anticipated by Offord et al. (U.S. Patent No. 5,901,075 of record).

As to claim 9, 10, and 13-15 Offord teaches an apparatus (and a method) that comprises a plurality of tap weights in a FIR filter (equalizer) whose coefficients are associated with the data signals received during assigned time slots (see Abstract, col. 2, lines 33-41, col. 3, line 66-col.4, line 5), a summing node (summer) **18** coupled to the plurality of the tap weights to sum the tap outputs (Fig. 2 and 3, and col. 1, lines 37-48) and a processor (memory) **38** to process the indicated tap weights coefficient which get updated during the assigned time slots(col.3, lines 54-65 and col.5, lines 26-31) as claimed in claims 9, 13 and 14

Offord further discusses generating carrier to interference ratio (C/I) at the output of the summing node (summer) **18** whose estimate is given in equation 7.419 (col.4, lines 26-37) as claimed in claim 10 and 15.

**2. Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 12, 16 -18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Offord et al. (U.S. Patent No. 5,901,075 of record) in view of Chin-Hwa Lee et al (Signals, Systems and Computers 1994, Vol.1, pp 89-93).

Offord teaches an apparatus that comprises a plurality of tap weights in a FIR filter (equalizer) whose coefficients are associated to the data signals received during assigned time slots, which means first transmitted signal power is received during a first time slot and a second transmitted signal power during a second time slot (see Abstract, col. 2, lines 33-41, col. 3, line 66-col.4, line 5), a summing node (summer) **18** coupled to the plurality of the tap weights to sum the tap outputs (Fig. 2 and 3, and col. 1, lines 37-48) and a processor **38** to process the indicated tap weights coefficient which get updated during the assigned time slots(col.3, lines 54-65 and col.5, lines 26-31). Offord also teaches generating carrier to interference ratio at the summing output (col.4, lines 26-37) as mentioned in the claim limitations 11 and 16-18.

Offord however fails to disclose generating data rate base on the carrier to interference ratio (C/I) estimate for each time slot.

Lee, however, discusses generating variable data rate based on the carrier to noise ratio (carrier to interference ratio) during as assigned time slot in wireless technology to increase communication capacity (page 91, col.2)

Both Offord and Lee teach the same field of endeavor of data transmission assigned in time slots. Therefore it would have been obvious to an ordinary person skilled in the art to apply Lee's teaching of generating data rate based on C/I estimate calculated by the processor 38 in Offord's invention to produce the required tap weight coefficients for the FIR filter in order to save power consumption by the mobile station, in order to obtain higher data rate, a balanced link budget between mobile and base station during transmission and maintain link quality of the transmission at the time the invention was made.

### **3. Conclusion**

The following references are included (cited) because they also teach relevant issues to the claimed invention.


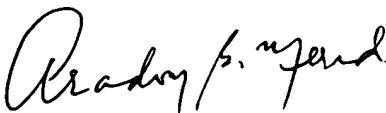
Jacobsmeier	U.S. Patent Number: 5,541,955
Servais et al.	U.S. Patent Number: 6,141,388
Balachandran et al.	U.S. Patent Number: 6,108,374
Borth	U.S. Patent Number: 4,852,090
Hensley et al.	U.S. Patent Number: 5,898,730
Gardner et al.	U.S. Patent Number: 5,857,147
Kamiya et al.	U.S. Patent Number: 5,854,612

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aradom B. Merid whose telephone number is 703-305-8953. The examiner can normally be reached on 8:00am-5:00pm (Mon. - Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aradom B. Merid



MOHAMMAD H. GHAYOUR  
PRIMARY EXAMINER